

# Volute pumps

for heat carrier oils up to 350 °C

SIHI *SuperNova*



## ZTND 032-125 . . . 200-500

### TECHNICAL DATA

Output:	max. 1000 m <sup>3</sup> /h
Delivery head:	max. 95 m
Speed:	max. 3600 rpm
Temperature:	max. 350 °C
Casing pressure:	PN 16
Shaft sealing:	radial seal rings or mechanical seal
Flange connection:	DIN EN 1092-2 PN 16 / 25 <sup>1)</sup>
Direction of rotation:	clockwise, when looking at the pump from the drive end



### APPLICATION

Volute pumps of the series ZTN have been specially developed for handling of mineral and synthetic heat transfer oils. The pumps may be used in installations with positive or negative suction pressure.

Especially to be emphasised is the application in plants of:

#### The chemical industry:

heating of agitators, reactors, drying plants, polymerisation plants, plants for conveying high-viscous products and producing plastic materials and synthetic fibres.

#### The rubber and plastic industry:

heating of calendars, melting pots, power presses for plastics, automatic injection moulding machines, production of PVC adhesive tape.

#### The food industry:

heating of baking and fish-frying ovens, distillation of fatty acids and glycerine, fat softening plants, production of potato chips and milk powder.

#### The paper industry and laundries:

calendar rolls, production of corrugated cardboard, heating of washing machines, mangles and dryers.

### DESIGN

Horizontal, single-stage volute pumps with the dimensions and nominal ratings to 24255/EN 733 in back pull out design\* which permits the removal of the complete bearing unit toward the drive end without removing the pump casing from the pipe work. If a spacer coupling is installed it is also unnecessary to disconnect the motor.

The programme comprises 38 pump sizes, but only three shaft assemblies are required owing to the unit construction system. Within each shaft assembly, shafts, shaft sealing, impeller fastenings, bearing bracket and bearing covers are interchangeable.

The DIN 4754 regulations are complied with.

Should heat carrier seepage occur from the shaft seal, it is ensured that the leakage will be drained off and collected completely.

<sup>1)</sup> from size 150315 to 200500

\* due to additional sizes the performance range is increased to higher output rates.

### CONSTRUCTION

#### Casing pressure:

Maximal 16 bar from 0 °C to 120 °C  
Maximal 13 bar from 120 °C to 300 °C  
Maximal 10 bar from 300 °C to 350 °C  
Intermediate values can be obtained by interpolation.

#### Please note:

Technical rules and safety regulations.

Max. Casing pressure = inlet pressure + zero head  
Admissible inlet pressure (system pressure) = 5 bar when using shaft sealing 002.

Admissible inlet pressure = admissible casing pressure when using shaft sealing GBC.

#### Flanges location:

Axial suction flange, discharge flange radially upwards.

#### Flanges:

The flanges comply with DIN EN1092-2/PN 16, resp. PN 25. Flanges drilled to according to ANSI (previous ASA) 150 can be supplied.

#### Hydraulic:

Designation of this construction type: A, B, D

#### Bearing:

One grease-lubricated grooved ball bearing resp. 2 inclined ball bearings (the first grease filling is made in the factory) and one internal liquid flushed sleeve bearing.  
Designation of this construction type: A

#### Direction of rotation:

Clockwise, when looking at the pump from the drive end.

#### Shaft sealing:

Code 002: several radial shaft seal rings arranged in series; uncooled

Code GBC: unbalanced bellows mechanical seal  
seal face materials cast chromium steel/carbon elastomer FPM (Viton)

**Material design:**

ITEM	COMPONENTS	MATERIAL						EXECUTION	
		EN mat.-number	EN mat.- denomination	DIN mat.-number	DIN mat.- denomination	US denomination		1B	2B (1)
						ASTM Standard	AISI		
10.20	Volute casing	EN-JS 1025	EN-GJS-400-18-LT	0.7043	GGG-40.3	A 395		X	
		1.0619	GP 240 GH	1.0619	GS-C 25	A 216 Gr WCB			X
16.10	Casing cover	EN-JS 1025	EN-GJS-400-18-LT	0.7043	GGG-40.3	A 395		X	
		1.0619	GP 240 GH	1.0619	GS-C 25	A 216 Gr WCB			X
21.00	Shaft	1. 1191	C 45 E	1.1191	Ck 45 K + N	A 576 Gr 1045	1045	X	
		1.4021	X 20 Cr 13	1.4021	X 20 Cr 13	A 276 Type 420	420	X (2)	X
23.00	Impeller	EN-JL 1040	EN-GJL 250	0.6025	GG-25	A 278 Class 30		X	X
33.00	Bearing bracket								
36.00	Bearing cover								
42.13	Radial seal rings	FPM (Viton)						X	X
43.30	Mechanical seal	chrome cast / carbon FPM (Viton)						X	X
44.10	Casing for mech. seal	1. 1191	C 45 E	1.1191	Ck 45 K + N	A 576 Gr 1045	1045	X	X
44.11	Seal of the shaft casing								
54.51	Sleeve bearing	carbon						X	X

(1) For sizes 200400 and 200500.

(2) For sizes 150315, 150400, 150500, 200250 and 200315.

**Casing gasket:**

The casing is sealed by flat gaskets of graphite. Designation of this construction type: 2

**Motor power:**

Using commercial electric motors, type of construction IM B3.

To determine the drive power we recommend the following safety margin:

Up to 4 kW: 25%      4 to 7,5 kW: 20%      above 7,5 kW: 15%

The following maximum speeds are to be observed:

max. speed n = 3600 rpm	size	max. speed n = 3000 rpm	size	max. speed n = 1800 rpm	size	max. speed n = 1500 rpm	size
t = 120 °C	032125 050200	t = 120 °C	032250	t = 120 °C	040315 150315	t = 120 °C	150500
	032160 065125		040250		050315 150400		200315
	032200 065160		050250		065315 200250		200400
	040125 065200		065250		080315		200500
	040160 080160		080250		100315		
	040200 080200		100250		125250		
	050125 100160		125200		150200		
	050160 100200		150250		150250		
t = 350 °C	032125 050200	t = 350 °C	032250	t = 350 °C	040315 150250	t = 350 °C	150315
	032160 065125		040250		050315		150400
	032200 065160		050250		065315		150500
	040125 080200		065200		080315		200250
	040160 100160		065250		100315		200315
	040200		080160		125200		200400
	050125		080250		125250		200500
	050160		100200		150200		
	100250						

The maximum speeds result from the permissible peripheral speeds of the impellers or from the shaft load admissible at higher temperatures, respectively.

**Bearing bracket / pump size:**

Bracket 25	032125 032160 032200 032250 040125 040160 040200 040250 050125 050160 050200 050250 065125 065160 065200 080160
Bracket 35	040315 050315 065250 065315 080200 080250 080315 100160 100200 100250 100315 125200 125250 150200 150250
Bracket 45	150315 150400 150500 200250 200315 200400 200500

**General remarks:**

For horizontal volute pumps CLOSE COUPLED construction with STANDARD motor for nominal performances and flange connections as per EN 733 refer to our series **ZTK**.

For INLINE pumps with the same drive unit, consisting of bearing bracket with bearing, stub shaft and mechanical seal, casing cover, impeller and impeller nut, refer to our series **ZTI**.

For equipping hot media systems a complete programme is available for a flow range between 1-600 m<sup>3</sup>/h consisting of the range:

**ZEN** volute pumps to EN 22858, t<sub>max</sub> 230 °C PN 40. Hot water design.

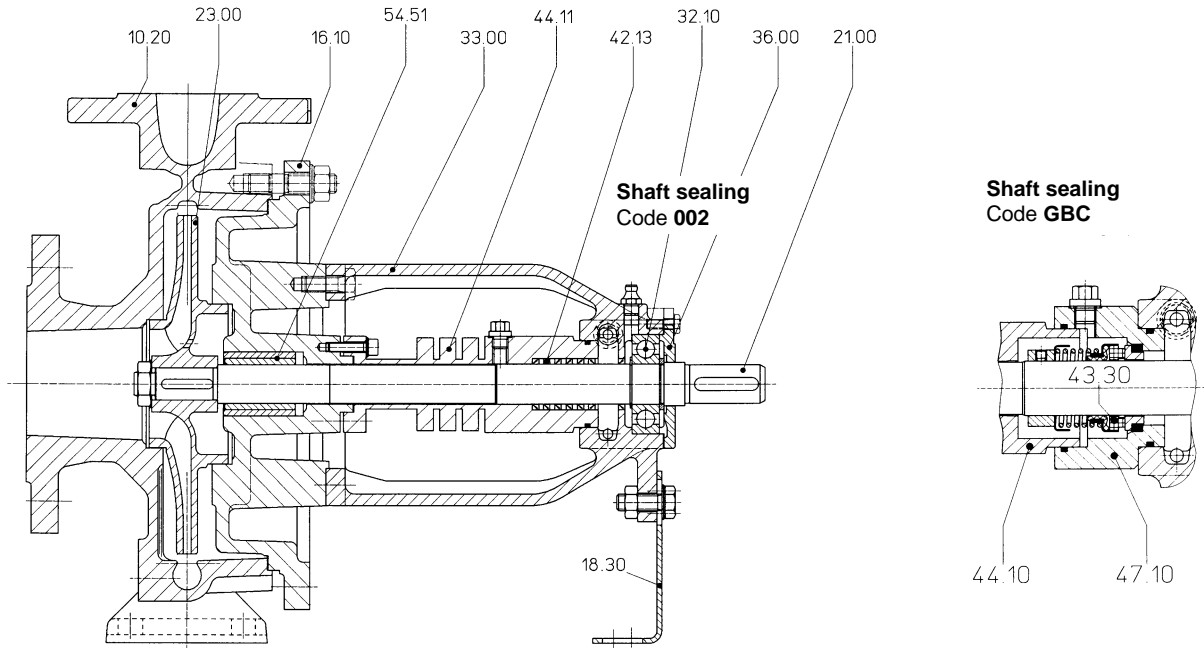
**ZDN** volute pumps to EN 22858, t<sub>max</sub> 207 °C PN 25. Hot water design.

**ZHN** volute pumps to EN 733, t<sub>max</sub> 180 °C PN 16. Hot water design.

**ZLI** volute pumps to EN 733 as INLINE construction, t<sub>max</sub> 150 °C PN 25. Hot water design.

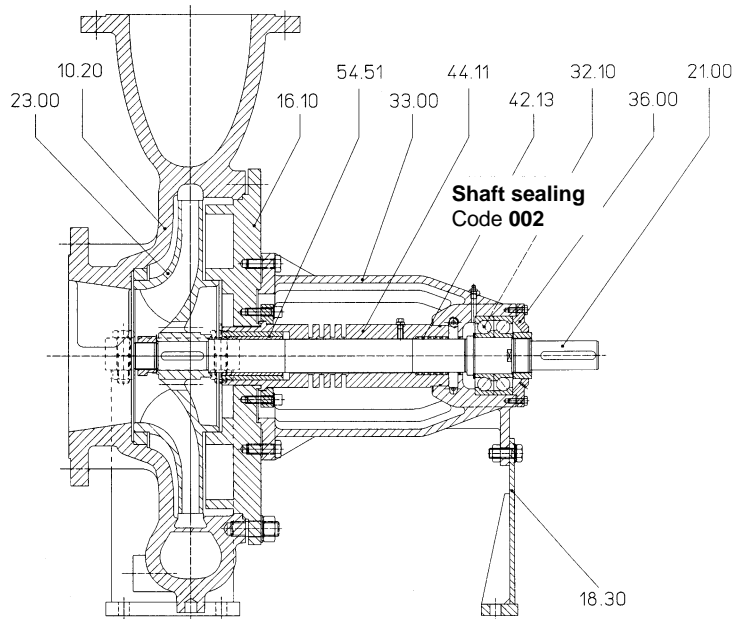
Technical documentation on these programmes will readily be supplied on request.

**SECTIONAL DRAWING AND NOMENCLATURE**  
**ZTN 032125 ... 150250**

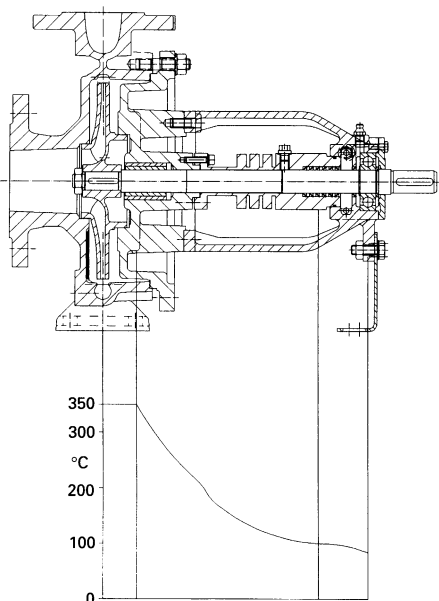


- 10.20 volute casing
- 16.10 casing cover
- 18.30 supporting foot
- 21.00 shaft
- 23.00 impeller
- 32.10 grooved ball bearing
- 33.00 bearing bracket
- 36.00 bearing cover
- 42.13 radial seal ring
- 43.30 mechanical seal
- 44.10 shaft seal casing
- 44.11 shaft seal casing
- 47.10 sealing cover
- 54.51 sleeve bearing

**ZTN 150315 ... 200500**



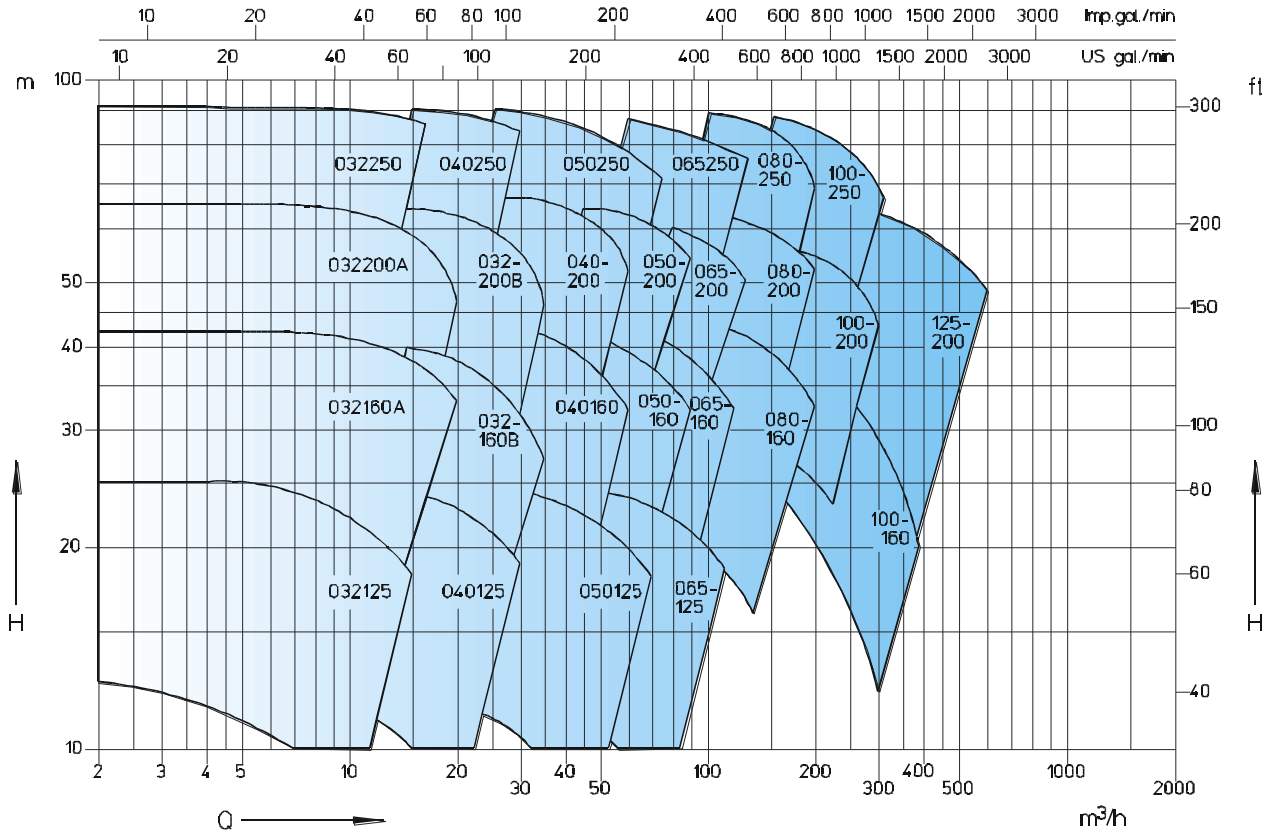
**Heat barrier / shaft sealing / bearing**



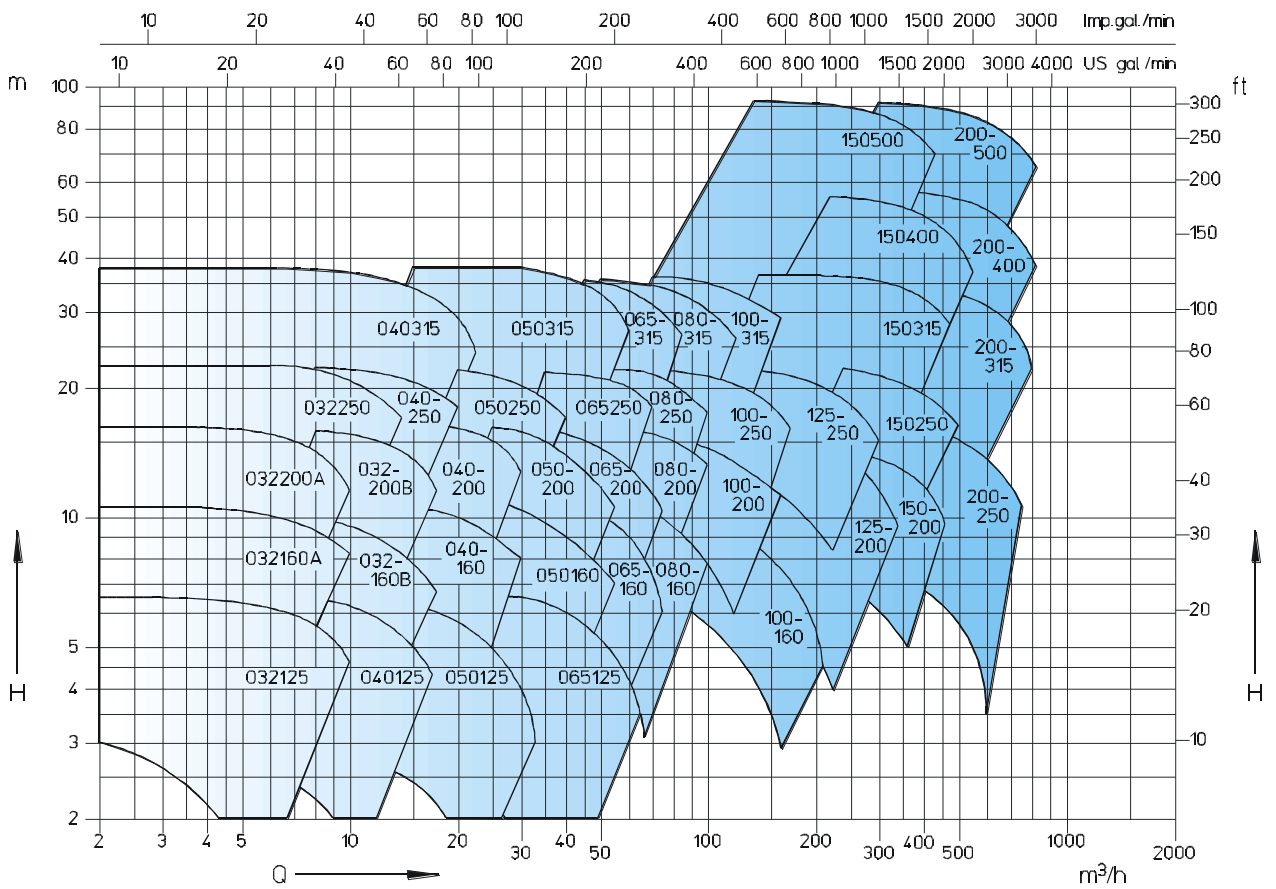
Heat transfer installations have achieved a high level of technical development. Consequently the requirements on pumps handling heat transfer oils have increased regarding operating safety, environmental protection, maintenance and operating costs. The Sterling SIHI ZTN pump, based on many years of experience and on the latest technical know-how, fully complies with these requirements.

By the heat barrier with integrated throttle gab, located behind the cover, a favourable drop in temperature toward the drive side is achieved (see opposite drawing). Heat losses at the product side are effectively prevented (saving of energy). The reduced temperature allows the use of simple, uncooled type of shaft sealing. As the lubricating properties of heat transfer oils for antifriction bearings are not specially good, a liquid flushed sleeve bearing has been fitted at the impeller side and an antifriction bearing, not in contact with the heat carrier, has been fitted behind the shaft sealing. By this arrangement noiseless operation and long working life have been achieved.

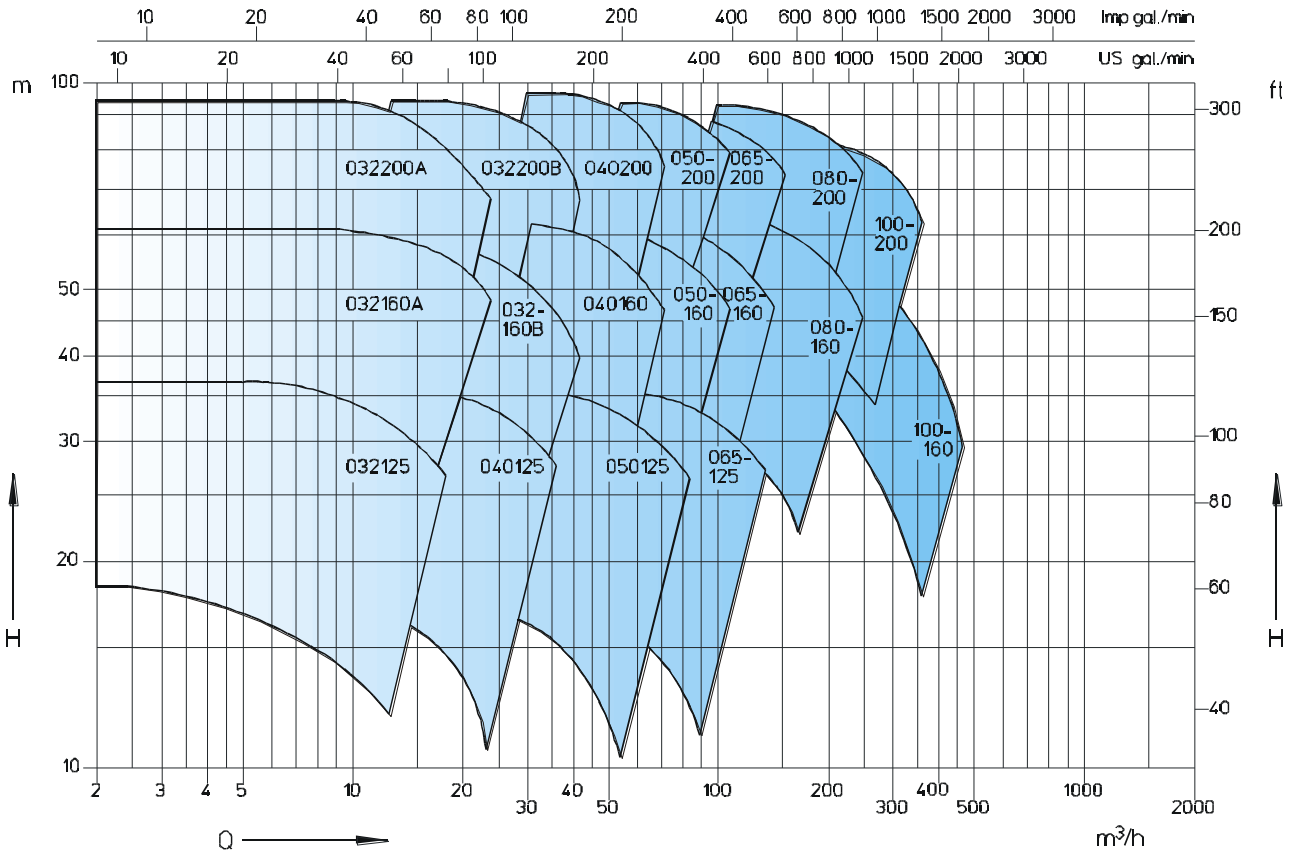
n=2900 1/min



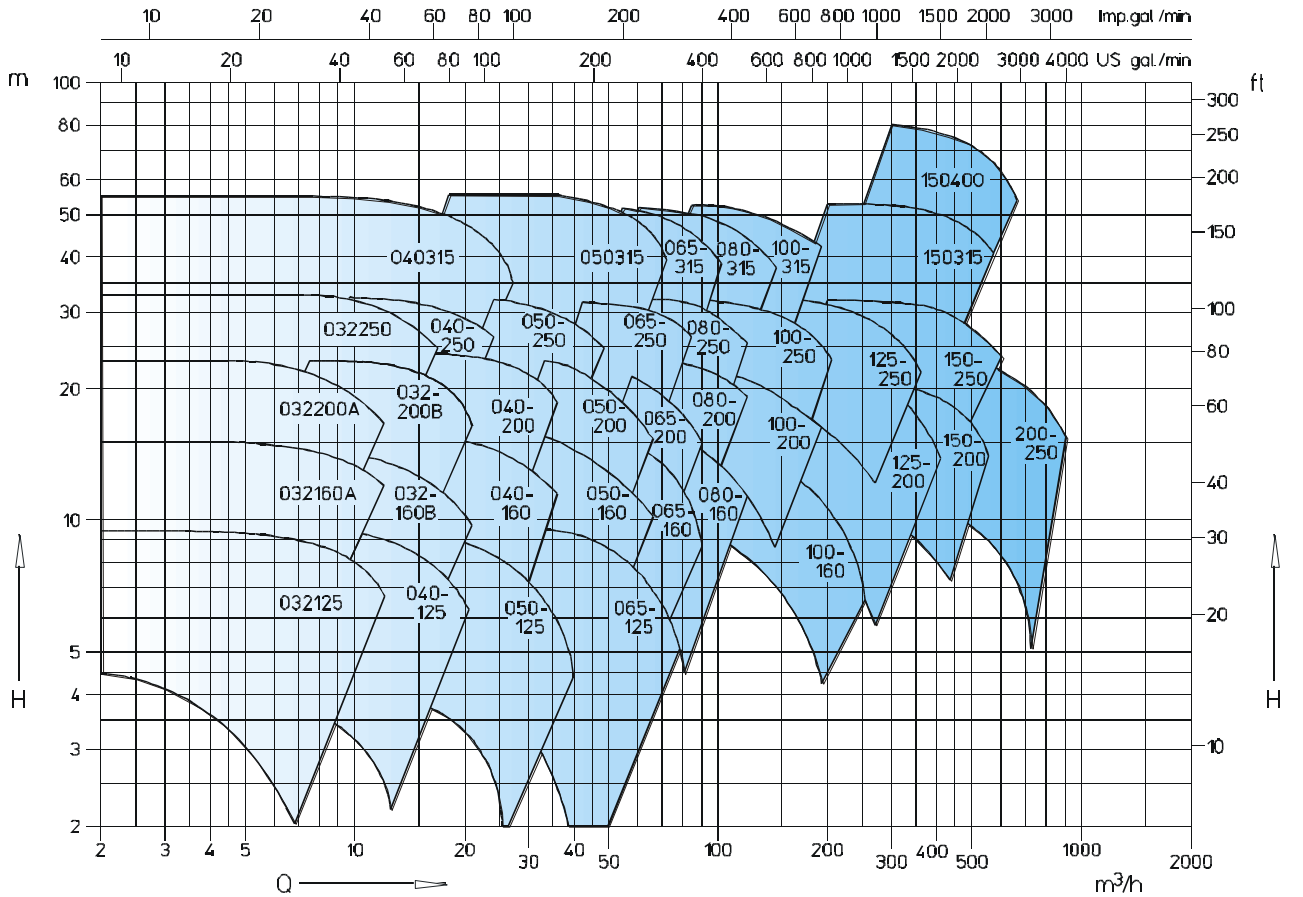
n=1450 1/min



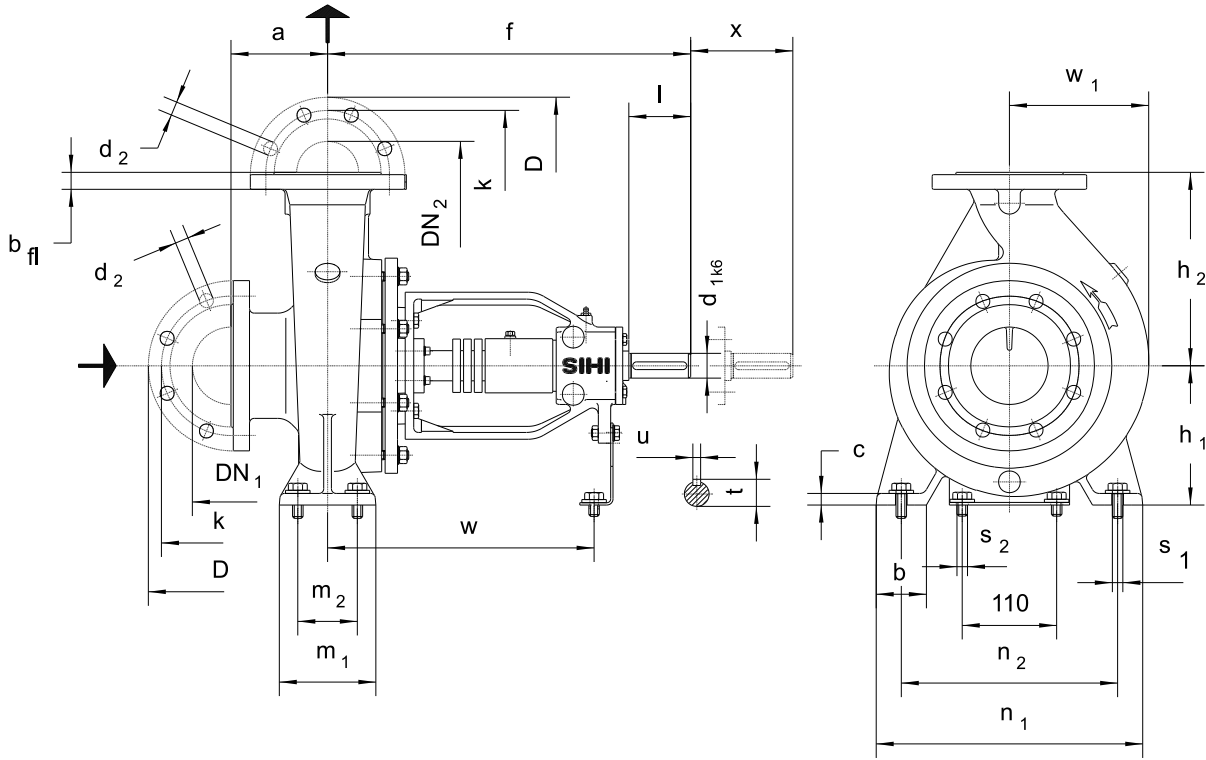
n=3500 1/min



n=1750 1/min



# Dimension table



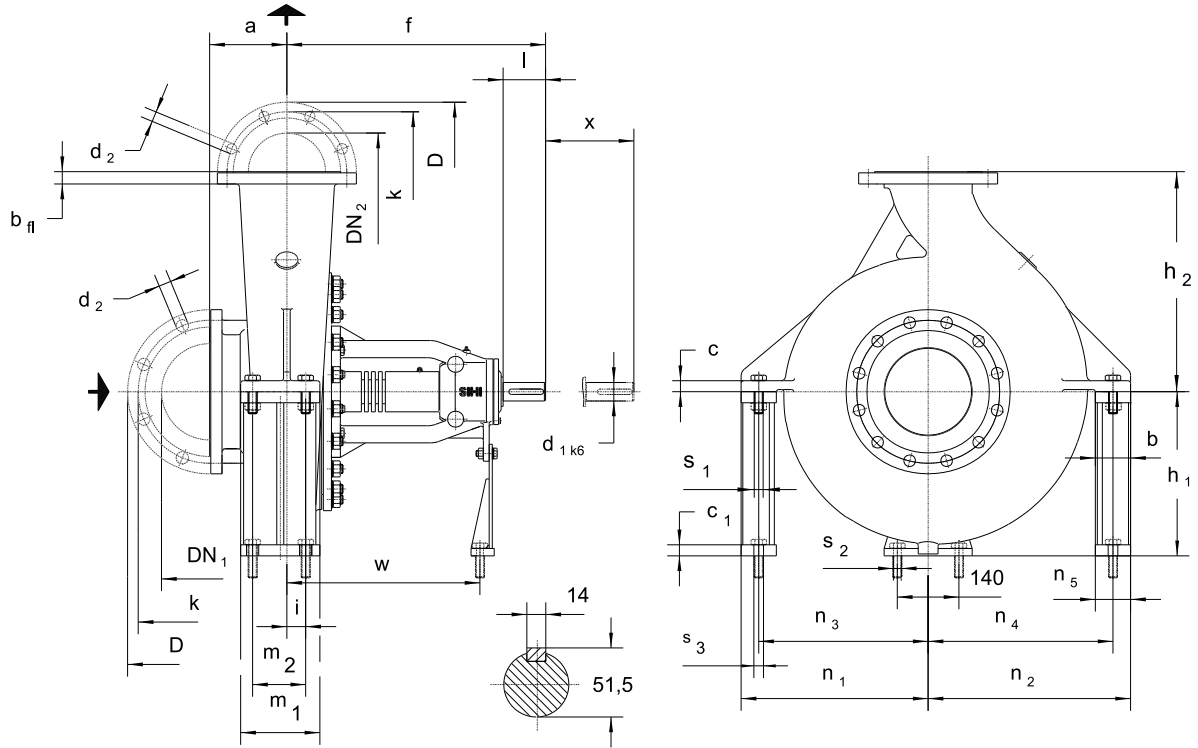
All dimensions in mm.

size	DN <sub>2</sub>	DN <sub>1</sub>	a	b	c	f	h <sub>1</sub>	h <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	n <sub>1</sub>	n <sub>2</sub>	s <sub>1</sub> *	s <sub>2</sub> *	w	w <sub>1</sub>	x	d <sub>1</sub>	l	t	u	
032125	32	50	80	50	15	360	112	140	100	70	190	140	M12		267	105	100	24	50	27	8	
032160							132	160			240	190										120
032200							160	180			265	212										127
032250 <sup>1)</sup>							180	225			320	250										160
040125	40	65	80	50	18	470	112	140	125	95	210	160	M12		340	204	100	32	80	35	10	
040160							132	160			240	190										108
040200							160	180			265	212										128
040250							180	225			320	250										140
040315 <sup>1)</sup>							225	250			345	280										164
050125	50	65	100	50	17	470	132	160	125	95	240	190	M12		340	210	100	32	80	35	10	
050160							160	180			265	212										120
050200							160	200			320	250										130
050250							180	225			320	250										150
050315 <sup>1)</sup>							225	280			345	280										169
065125	65	80	100	65	15	360	160	180	160	120	280	212	M16		340	183	100	24	50	27	8	
065160							160	200			280	212										140
065200							180	225			320	250										166
065250							200	250			360	280										183
065315							225	280			400	315										220
080160	80	100	125	65	15	360	180	225	125	95	320	250	M12		267	165	100	24	50	27	8	
080200							180	250			345	280										180
080250							200	280			400	315										200
080315							250	315			400	315										235
100160 <sup>1)</sup>	100	125	80	18	470	200	200	280	160	120	360	280	M16		340	202	120	32	80	35	10	
100200							225	315			400	315										212
100250							225	315			400	315										242
100315							250	315			400	315										242
125200 <sup>1)</sup>							250	355			550	450										236
125250	250	355	550	450	236																	
150200 <sup>1)</sup>	150	200	160	100	20	280	280	400	200	150	550	450	M20		274	190	100	80	35	10		
150250 <sup>1)</sup>							280	400			500	400									274	170

<sup>1)</sup> Transnorm pump sizes, not included in DIN 24255/ EN 733. Flanges drilled according to ANSI 150 can be supplied.

\* Slots suitable for bolts with dimensions indicated. Bolts are not included in the bare shaft pump standard scope of supply.

**Dimension table**



All dimensions in mm.

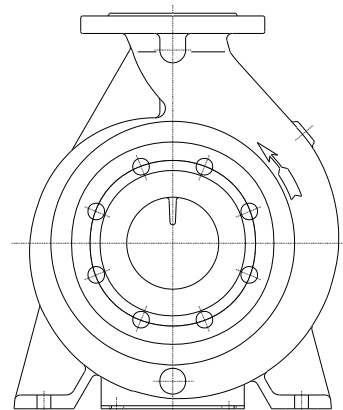
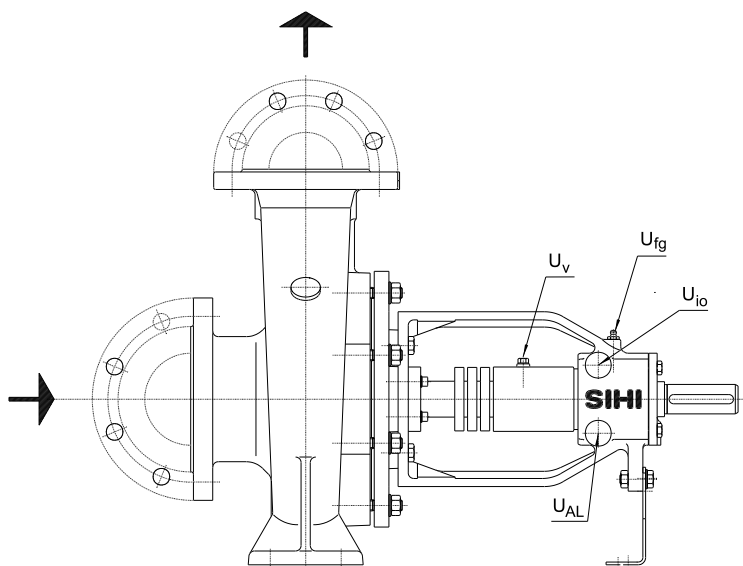
size	DN <sub>2</sub>	DN <sub>1</sub>	a	f	h <sub>1</sub>	h <sub>2</sub>	m <sub>1</sub>	m <sub>2</sub>	i	l	x	d <sub>1</sub>	w	c	c <sub>1</sub>	s <sub>1</sub>	s <sub>2</sub> *	s <sub>3</sub> *	n <sub>1</sub>	n <sub>2</sub>	n <sub>3</sub>	n <sub>4</sub>	b, n <sub>5</sub>
150315 <sup>1)</sup>	150	200	180	670	315	400	160	100	35	110	180	48	500	25	23	M20	M12	M20	320	360	290	330	60
150400 <sup>1)</sup>					355	450													380	420	340	380	
150500 <sup>1)</sup>					400	500													425	460	385	420	
200250 <sup>1)</sup>	200	250	250	670	335	425	180	120	45	110	180	48	500	25	23	M20	M12	M20	340	410	300	370	80
200315 <sup>1)</sup>			355		450	360													420	320	380		
200400 <sup>1)</sup>			375		500	400													480	360	440		
200500 <sup>1)</sup>			425		560	220													160	50	475	575	

<sup>1)</sup> Transnorm pump sizes, not included in DIN 24255/ EN 733. Flanges drilled according to ANSI 150 can be supplied.

\* Slots suitable for bolts with dimensions indicated. Bolts are not included in the bare shaft pump standard scope of supply.

Flange connection according to DIN EN 1092-2 PN 16 Execution material 1B	DIN EN 1092-2 PN 25																	
	Execution material 1B										Execution material 2B							
DN <sub>2</sub> /DN <sub>1</sub>	32	40	50	65	80	100	125	150	200	150	200	250	200	250				
D	140	150	165	185	200	220	250	285	340	300	360	425	360	425				
k	100	110	125	145	160	180	210	240	295	250	310	370	310	370				
b <sub>n</sub>	18	19	19	19	19	19	19	19	20	20	22	24,5	30	32				
Tolerances											+4,5				+1,5			
											-4,0				-1,5			
d <sub>2</sub> x number	19x4	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x12	28x8	28x12	31x12	26x12	30x12				

Connections for bearing brackets 25 and 35

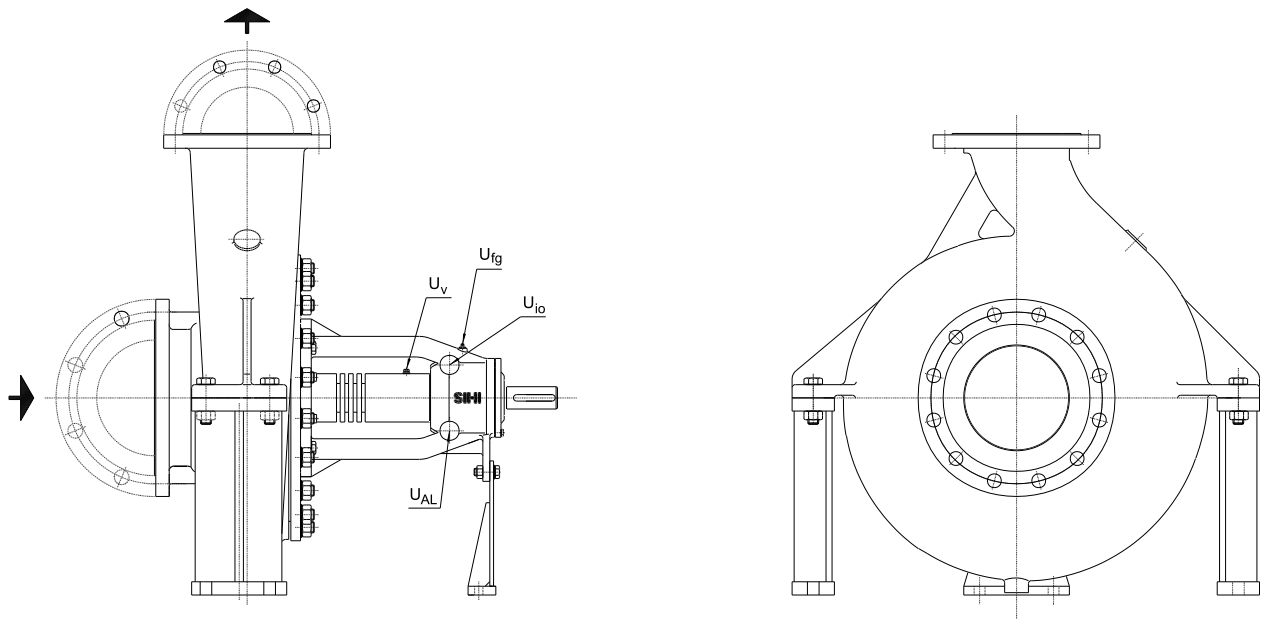


- U<sub>fg</sub> : Grease filling connection.
- U<sub>io</sub> : Sealing liquid connection.
- U<sub>AL</sub> : Drainage for leakage.
- U<sub>v</sub> : Vent connection

Size	U <sub>fg</sub>	U <sub>v</sub>	U <sub>io</sub>	U <sub>AL</sub>
032125				
032160				
032200				
032250				
040125				
040160				
040200				
040250				
040315				
050125				
050160				
050200				
050250				
050315				
065125				
065160	G 1/8	G 1/8	G 1/4	G 1/4
065200				
065250				
065315				
080160				
080200				
080250				
080315				
100160				
100200				
100250				
100315				
125200				
125250				
150200				
150250				

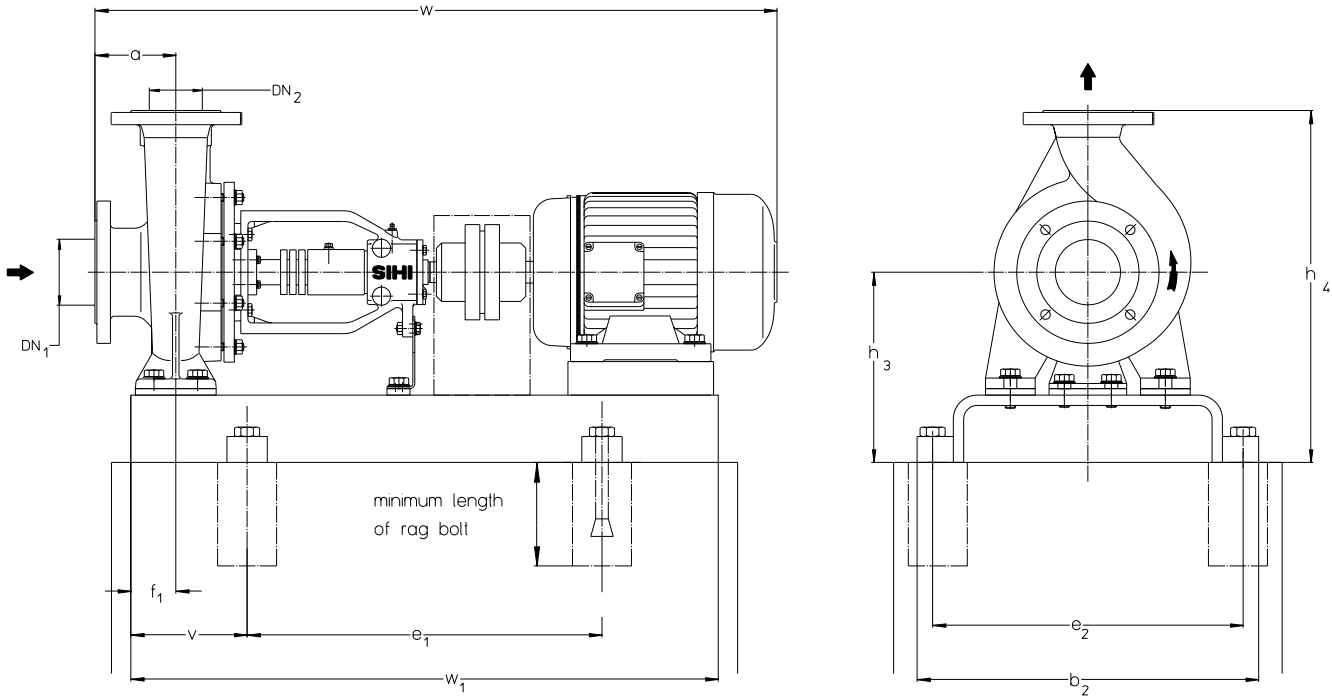


**Connections for bearing bracket 45**



- $u_{fg}$  : Grease filling connection.
- $u_{io}$  : Sealing liquid connection.
- $u_{AL}$  : Drainage for leakage.
- $u_v$  : Vent connection.

Size	$u_{fg}$	$u_v$	$u_{io}$	$u_{AL}$
150315				
150400				
150500				
200250	G 1/8	G 1/8	G 1/4	G 1/4
200315				
200400				
200500				



Dimensions in mm.

Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor		base plate No.	coup-ling **	weight		DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	w*	w <sub>1</sub>	rag bolt DIN 529
	size	kW			pump kg	Unit kg													
032125	71	0.25	S008	B68	32	51	32	50	80	297	400	265	120	60	152	292	682	640	M12x100
	71	0.37				52													
032160	71	0.37	S270	B68	41	69	40	65	80	360	420	320	115	60	197	357	716	650	M16x200
	80	0.55				72													
032200	80	0.55	S301	B68	39	70	40	65	100	390	480	350	125	75	225	405	774	730	M20x400
	80	0.75				78													
	90L	1.50				80													
032250	80	0.75	S383	B80	52	103	40	65	100	490	600	440	160	75	260	485	736	920	M20x400
	90S	1.10				106													
	90L	1.50				108													
	100L	2.20				118													
040125	71	0.25	S270	B68	34	61	40	65	80	360	420	320	115	60	177	317	682	650	M16x200
	71	0.37				62													
040160	80	0.55	S301	B68	39	65	40	65	100	390	480	350	125	75	225	405	682	730	M20x400
	71	0.37				69													
	80	0.55				70													
040200	80	0.75	S383	B80	43	78	40	65	100	490	600	440	160	75	260	485	774	920	M20x400
	90S	1.10				79													
	80	0.55				82													
	90L	1.50				84													
040250	90S	1.10	S434	B95	57	111	40	65	125	540	660	490	170	75	305	555	794	1000	M20x400
	90L	1.50				113													
	100L	2.20				123													
040315	100L	3.00	S434	B95	87	153	40	65	125	540	660	490	170	75	305	555	835	920	M20x400
	100L	3.00				154													
050125	112M	4.00	S434	B95	90	199	40	65	125	540	660	490	170	75	305	585	1067	1000	M20x400
	132S	5.50				202													
050160	71	0.37	S270	B68	35	63	40	65	100	360	420	320	115	60	197	357	702	650	M16x200
	80	0.55				67													
050200	80	0.75	S301	B68	44	80	40	65	100	390	480	350	125	75	225	425	736	730	M20x400
	80	0.55				83													
	90S	1.10				79													
050250	80	0.75	S383	B80	43	82	40	65	125	490	600	440	160	75	260	485	794	920	M20x400
	90S	1.10				84													
	90L	1.50				94													
	100L	2.20				113													
050315	90L	1.50	S434	B95	57	123	40	65	125	540	660	490	170	75	305	585	794	1000	M20x400
	100L	2.20				124													
050315	100L	3.00	S434	B95	90	157	40	65	125	540	660	490	170	75	305	585	856	1000	M20x400
	112M	4.00				202													
050315	112M	4.00	S434	B95	90	202	40	65	125	540	660	490	170	75	305	585	1067	1000	M20x400
	132M	7.50				205													

Foundation plan

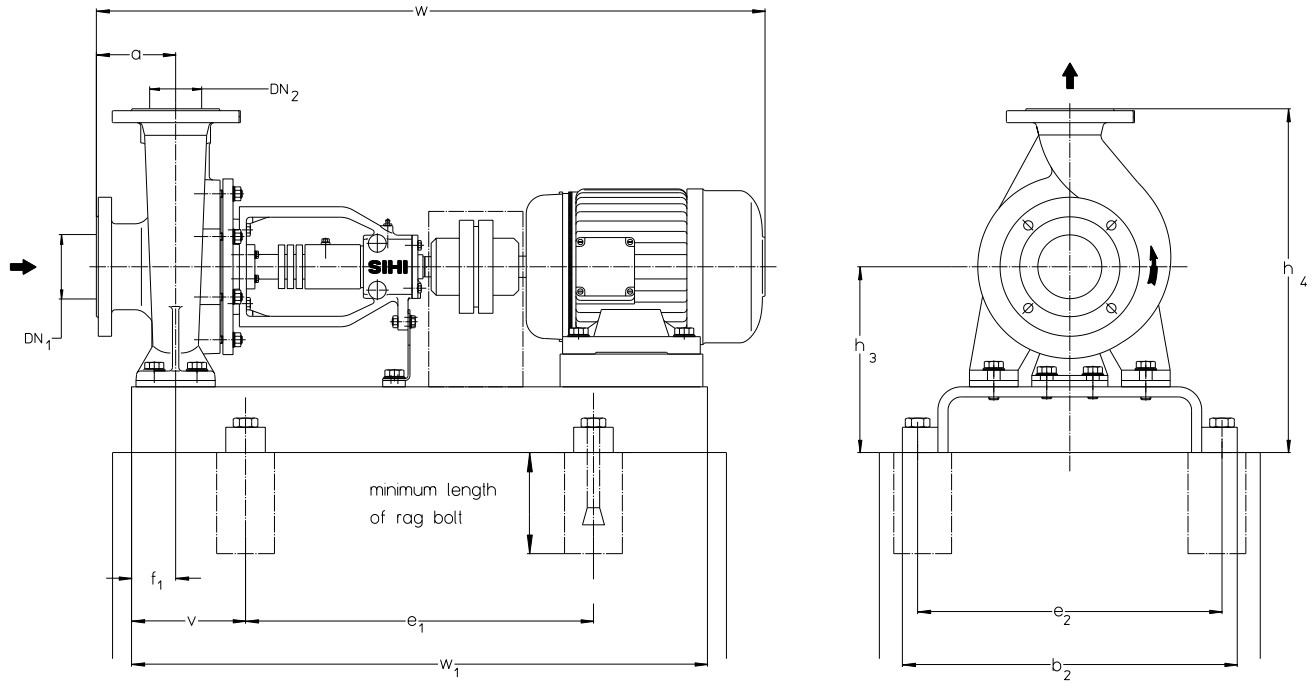
n = 1450 rpm

size	motor		base plate No.	coupling **	weight		DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	w*	w <sub>1</sub>	rag bolt DIN 529													
	size	kW			pump kg	Unit kg																										
065125	80	0,55	S342	B68	39	83	65	80	100	450	540	400	140	60	240	420	736	820	M20x400													
	80	0,75				86											794															
	90S	1,10				89											736															
065160	80	0,75			45	B80											92			100	490	600	440	160	75	260	485	440	794	920		
	90S	1,10															94												794			
	90L	1,50															105												835			
065200	100L	2,20	S383	B80	48	102			80	100	90	540	660	490	170	90	280	530											945		1000	
	90L	1,50				104																							966			
	100L	2,20				114																							1042			
	100L	3,00				115														1067												
065250	100L	2,20	S434	B80	78	161					100	125	90	610	840	550	205	90		325	605	1093	1250									
	100L	3,00				162																1185										
	112M	4,00				190	1247																									
	132M	5,50				231	1067																									
065315	132S	5,50	S486	B95	94	234	100	100					90	610	840	550	205	90	325	605	1093	1250										
	132M	7,50				250															1185											
	160M	11,00				280															1247											
	160L	15,00				102															761											
080160	80	0,75	S383	B68	51	102			80	100			90	490	600	440	160	75	260	485	819	920										
	90S	1,10				105															860											
	90L	1,50				107															929											
	100L	2,20				118															970											
	100L	3,00				127					991																					
080200	90L	1,50		S434	B80	71					137	100									125		90	540	660	490	170	90	300	580	1067	1000
	100L	2,20									138																				1067	
	100L	3,00									183																				1093	
	112M	4,00					192	1093																								
080250	112M	4,00		S486	B80	84	193	100			125												90	610	840	550	205	90	350	665	1067	1250
	132S	5,50	221				1067																									
	132M	7,50	224				1093																									
	132S	5,50	241				1067																									
080315	132M	7,50	S486	B95	104	244	100		125	90			610	840	550	205	90	350	665	1093		1250										
	160M	11,00				260														1185												
	160L	15,00				290														1247												
	100L	2,20				163														971												
100160	100L	3,00	S434	B80	80	164				100		125	90	540	660	490	170	90	280	560	992	1000										
	112M	4,00				192															1068											
	132S	5,50				192															1068											
	100L	2,20				162															971											
100200	100L	3,00	S434	B80	79	163		100			125		90	540	660	490	170	90	280	560	992	1000										
	112M	4,00				191															1068											
	132S	5,50				194															1094											
	132M	7,50				198															1006											
100250	112M	4,00	S486	B80	89	226	100		125				90	610	840	550	205	90	325	605	1082	1250										
	132S	5,50				229															1108											
	132M	7,50				245															1200											
	160M	11,00				262															1262											
100315	160M	11,00	S486	B95	106	292				100		125	90	610	840	550	205	90	350	665	1262	1250										
	160L	15,00				304															1324											
	180M	18,50				320															1404											
	180L	22,00				242															1282											
125200	132M	7,50	S486	B95	102	258		125			150		90	610	840	550	205	90	350	665	1108	M24x400										
	160M	11,00				288															1200											
	160L	15,00				249															1262											
125250	132M	7,50	S486	B95	109	265							125	150	90	610	840	550	205	90	705		665	1108	M24x400							
	160M	11,00				295	1200																									
	160L	15,00				278	1262																									
150200	132M	7,50	S605	B95	120	278	150		200						160	730	840	670	190	110	380		780	1128		1120						
	160M	11,00				294																		1220								
	160L	15,00				323				1282																						
	180M	18,50	335	1344																												
	180L	22,00	351	1346																												
	200L	30,00	395	1404																												
150250	160L	15,00	S605	B110	134	337		150		200	160	730			840	670	190	110	380	780	1282	1120										
	180M	18,50				339															1344											
	180L	22,00				377															1402											
	200L	30,00	421	1469																												
	225S	37,00	467																													
	225M	45,00	487																													
150315	Foundation plans with base plates and fittings on request																															
150400																																
150500																																
200250																																
200315																																
200400																																
200500																																

\* Motor protection type IP 55, dimensions depend on the motor manufacturer.  
 Some sizes are not corresponding to the drawing in small details.  
 Foundation plan for 60 Hz on request.

Foundation plan

n = 2900 rpm



Dimensions in mm.  
Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor		base plate No.	coupling **	weight		DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	w*	w <sub>1</sub>	rag bolt DIN 529
	size	kW			pump kg	Unit kg													
032125	71	0.55	S008	B68	32	52	32	50	80	297	400	265	120	60	152	292	682	640	M12x100
	80	0.75				55											716		
	80	1.10				67											774		
	90S	1.50	69			774													
	90L	2.20	72			815													
032160	80	1.10	S270	B80	41	80	32	50	80	360	420	320	115	60	197	357	716	730	M16x200
	90S	1.50	82			774													
	90L	2.20	82			815													
	100L	3.00	92			836													
	112M	4.00	93			895													
	132S	5.50	130			912													
	132S	7.50	130			912													
032200	90L	2.20	S301	B95	39	80	40	65	80	390	480	350	125	60	225	405	774	730	M16x200
	100L	3.00	90			815													
	112M	4.00	91			836													
	132S	5.50	128			912													
	132S	7.50	128			912													
	160M	11.00	147			1088													
	160M	15.00	147			1088													
032250	132S	7.50	S342	B95	52	148	40	65	100	490	600	440	160	75	260	485	1150	1020	M20x400
	160M	11.00	167			1050													
	160M	15.00	167			1050													
040125	80	1.10	S270	B68	34	65	40	65	80	360	420	320	115	60	177	317	716	650	M16x200
	90S	1.50	70			774													
	90L	2.20	71			815													
	100L	3.00	82			836													
	100L	3.00	82			836													
040160	90S	1.50	S301	B80	39	78	40	65	80	390	480	350	125	60	197	357	776	730	M16x200
	90L	2.20				80											815		
	100L	3.00				90											836		
	112M	4.00	91			895													
	132S	5.50	128			912													
	132S	7.50	138			912													
	160M	11.00	159			1030													
040200	100L	3.00	S301	B80	43	94	40	65	100	390	480	350	125	60	225	405	817	730	M16x200
	112M	4.00	95			856													
	132S	5.50	132			932													
	132S	7.50	132			932													
	160M	11.00	158			1050													
040250	160M	15.00	S383	B95	57	153	40	65	100	490	600	440	160	75	260	485	932	920	M20x400
	132S	7.50	172			1050													
	160M	11.00	172			1112													
	160M	15.00	216			1112													
	160L	18.50	216			1112													

Foundation plan

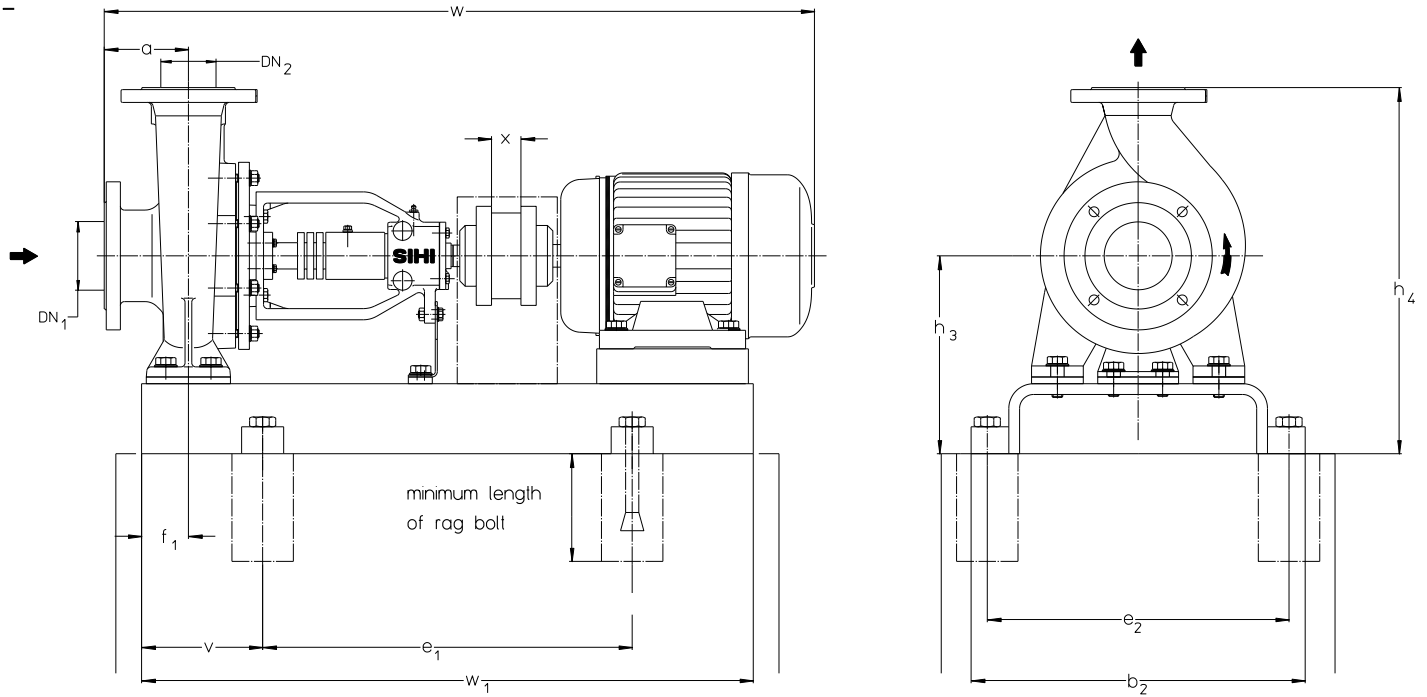
n = 2900 rpm

size	motor		base plate No.	coup-ling **	weight		DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	w*	w <sub>1</sub>	rag bolt DIN 5298														
	size	kW			pump kg	unit kg																											
050125	90S	1.50	S301	B68	35	74	50	65	100	390	480	350	125	60	197	357	794	730	M16x200														
	90L	2.20				76											835	820															
	100L	3.00	S272	B80		86											360		540	320	140	817											
	112M	4.00				87												856															
	132S	5.50	S342	B95		124											450	400	400	140	212	372	932	820	M20x400								
050160	90L	2.20	S301	B68	44	85	65	100	60	390	480	350	125	60	225	405	794	730	M16x200														
	100L	3.00		B80		95											835	820															
	112M	4.00				96											856																
	132S	5.50	S342	B95		133											450	540	400	140	240	420	932	820	M20x400								
	132S	7.50				159																				1050	920						
	160M	11.00				S383																				159	1050	920					
050200	100L	3.00	S301	B80	43	94	80	100	60	490	600	440	160	75	260	485	817	730	M16x200														
	112M	4.00				95											858																
	132S	5.50	S342	B95		132											450	540	400	140	240	440	932	820	M20x400								
	132S	7.50				158																				1050	920						
	160M	11.00				S383																				158	1050	920					
	160M	15.00				S383																				163	1050	1020					
160L	18.50	S344	163	1050	1020																												
050250	160M	11.00	S383	B110	57	172	80	100	75	490	600	440	160	75	260	485	1112	1000	M20x400														
	160M	15.00				216											1174																
	160L	18.50	S434			B110											229	540	660	490	170	280	505	1232	1140	M24x400							
	180M	22.00															296										740	200					
	200L	30.00															S435										B125	296	740	200			
065125	100L	3.00	S342	B80	39	99	80	100	60	450	540	400	140	75	260	485	835	820	M20x400														
	112M	4.00				100											856																
	132S	5.50				128											450	540	400	140	240	440	932	1050	920	M20x400							
	132S	7.50				134																											
	132S	5.50				160																											
065160	132S	7.50	S383	B95	45	160	80	100	75	490	600	440	160	75	260	485	1112	1000	M20x400														
	132S	5.50				163											1174																
	160M	11.00				207											48	160	490	600	440	160	280	530	1342	1270	M24x400						
	160M	15.00				220																											
	160M	11.00				287																											
065200	160L	18.50	S434	B110	48	220	80	100	75	540	660	490	170	90	280	530	1232	1140	M24x400														
	180M	22.00				287																											
	200L	30.00				B125											244	78	540	740	490	200	325	575	1372	1250	M24x400						
	160L	18.50				B95											257																
	180M	22.00				B110											257																
065250	200L	30.00	S436	B125	78	324	80	100	90	610	840	550	205	90	280	530	1342	1270	M24x400														
	200L	37.00				401											1284																
	225M	45.00				S486											401	610	840	550	205	325	575	1372	1250	M24x400							
	080160	132S				7.50											S383	B95	51	147	100	125	75	490	600	440	160	75	260	485	957	920	M20x400
		160M				11.00														166											1075		
160M		15.00	210	71	540	660	490	200	280	530	1367	1270	M20x400																				
160L		18.50	223																														
180M		22.00	202																														
080200	160M	15.00	S434	B95	71	202	80	100	90	540	740	490	200	75	260	510	1137	1000	M20x400														
	160L	18.50				237											1185																
	180M	22.00				S435											B110	250	610	840	550	205	300	580	1367	1250	M24x400						
	200L	30.00																317										1309					
	200L	37.00																317										1309					
080250	200L	30.00	S486	B125	84	342	100	125	90	610	840	550	205	90	300	580	1367	1250	M24x400														
	200L	37.00				407											1397																
	225M	45.00				407											730	940	670	230	350	630	1527	1400	M24x400								
	250M	55.00				S607											B140	629	730	940	670	230	350	630	1527	1400							
	100160	160L				18.50											S435	B95	80	246	100	125	90	540	740	490	200	75	280	560	1247	1140	M20x400
180M		22.00	259	1309																													
200L		30.00	S436	B125	326	610	840	550	205	325	605	1382	1250	M24x400																			
200L		37.00			347										1412																		
200L		30.00			347										1382																		
100200	160L	18.50	S435	B95	79	245	100	125	90	540	740	490	200	75	280	560	1247	1140	M20x400														
	180M	22.00				258											1309																
	200L	30.00				S436											B125	325	610	840	550	205	325	605	1382	1250	M24x400						
	200L	37.00																402										1412					
	225M	45.00																402										1397					
100250	200L	30.00	S486	B125	89	347	100	140	90	610	840	550	205	90	325	605	1382	1250	M24x400														
	200L	37.00				412											1412																
	225M	45.00				634											730	940	670	230	350	630	1542	1400	M24x400								
	250M	55.00				S607																				B140	903						
	280S	75.00				S609A																				B160	953						
125200	280M	90.00	S609A	B160	953	647	125	150	90	730	940	670	230	90	350	665	1542	1400	M24x400														
	250M	55.00	S607	B140	916																												
	280S	75.00	S609A	B160	966																												

\* Motor protection type IP 55, dimensions depend on the motor manufacturer.  
 Some sizes are not corresponding to the drawing in small details.  
 Foundation plan for 60 Hz on request

Foundation plan for units with spacer type coupling

n = 1450 rpm



Dimensions in mm.

Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor size	motor kW	base-plate No.	coupling **	weight pump kg	weight unit kg	DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	x	w*	w <sub>1</sub>	rag bolt DIN 529								
032125	71	0.25	S241	H80	32	63	32	50	80	330	480	290	125	60	177	317	100	780	730	M16x200								
	71	0.37	S301			76															350	197	357					
032160	80	0.55	S272		41	80				360	540	320	140		225	405		814	820		872	834	892	920	M20x400			
	80	0.75				78																				350	197	357
032200	90S	1.10			S383	39				81	490	600	440		160	260		485	872		820	834	892	920	M20x400			
	90L	1.50								83																350	197	357
032250	80	0.75	S383		52	105				490	600	440	160		260	485		892	920		933	834	892	920	M20x400			
	90S	1.10				108																				350	197	357
040125	71	0.25			S241	H80				34	65	40	65		80	330		480	290		125	60	177	317	100	780	730	M16x200
	71	0.37			S272						73																	
040160	80	0.55	S301	39	74		360	540	320	140	225			405		814	820	872	834	892	920		M20x400					
	80	0.75			78																			350		197	357	
040200	90S	1.10		S272	43		81	450	540	400	140			240		420	872	820	834	892	920		M20x400					
	80	0.55					89																	350		197	357	
040250	80	0.75	S342	57	92		490	600	440	160	260			485		892	920	933	834	892	920		M20x400					
	90S	1.10			94																			350		197	357	
040315	90L	1.50		S383	87		113	540	660	490	170			305		555	1068	1000	1089	1165	1140		1165	1140		M20x400		
	100L	2.20					115																				350	
050125	100L	2.20	S434		87	171	540	660	490	170	305	555	1068	1000	1089	1165	1140	1165	1140	M20x400								
	112M	4.00				172															350	197	357					
050160	132S	5.50		S435	H95	207	540	740	490	200	305	585	1165	1140	1191	1140	1191	1140	M20x400									
	71	0.37				S301														70	390	480	350	125	197	357		
050200	80	0.55	S272	35	74	360	540	400	140	240	420	872	820	834	892	920	933	933	920	M20x400								
	80	0.75			90																350	197	357					
050250	80	0.55		S342	44	93	450	540	400	140	240	420	872	820	834	892	920	933	933	920	M20x400							
	80	0.75				89																350	197	357				
050315	90S	1.10	S383		43	92	490	600	440	160	260	485	892	920	933	834	892	920	M20x400									
	90L	1.50				94														350	197	357						
050315	100L	2.20	S434	57	115	540	660	490	170	305	555	1068	1000	1089	1165	1140	1165	1140	M20x400									
	112M	4.00			126															350	197	357						
050315	100L	2.20		S383	87	125	540	660	490	170	305	555	1068	1000	1089	1165	1140	1165	1140	M20x400								
	112M	4.00				175															350	197	357					
050315	132S	5.50	S435	H95	210	540	740	490	200	305	585	1165	1140	1191	1140	1191	1140	M20x400										
	132M	7.50			213														350	197	357							

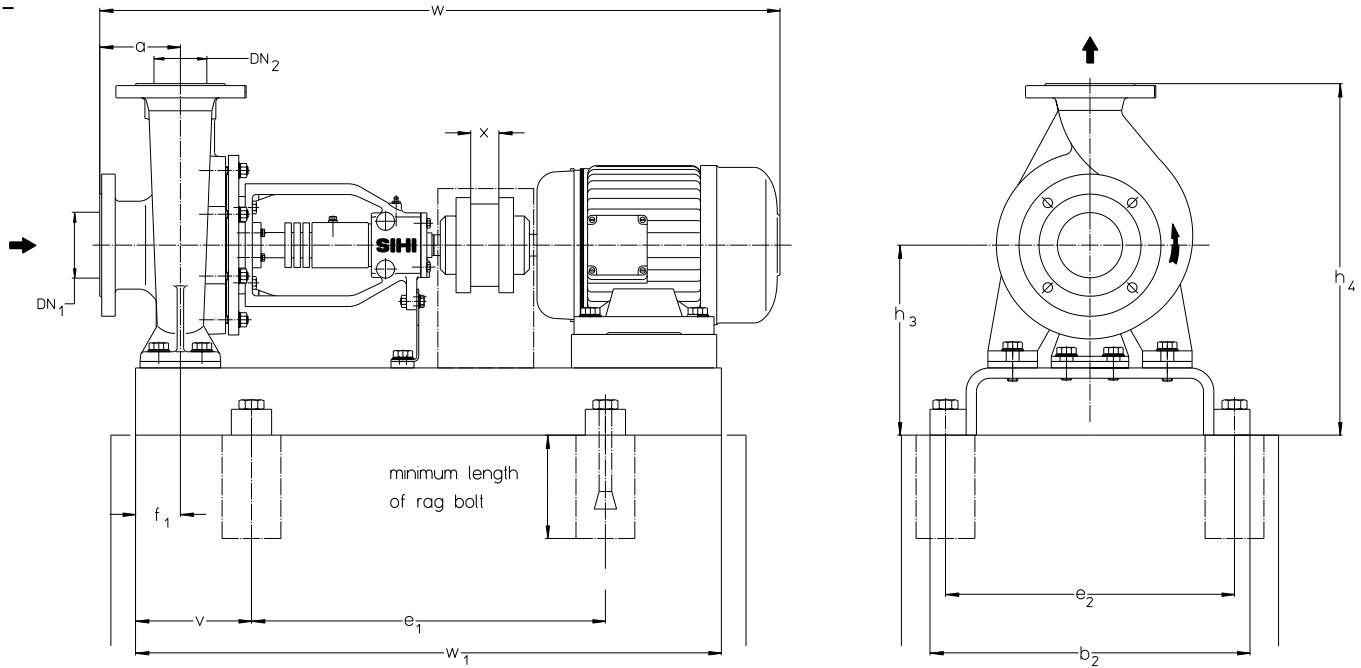
Foundation plan for units with spacer type coupling

n = 1450 rpm

size	motor size	motor kW	base plate No.	coupling **	weight pump kg	weight unit kg	DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	x	w*	w <sub>1</sub>	rag bolt DIN 529															
065125	80	0,55	S342	H80	39	85	65	80	100	450	540	400	140	60	240	420	100	834	820	M20x400															
	80	0,75				88												892																	
	90S	1,10				91												834																	
065160	80	0,75			S342	H80												45			91	65	80	100	450	540	400	140	60	240	440	100	892	820	M20x400
	90S	1,10																			94												892		
	90L	1,50																			96												933		
	100L	2,20	106																																
065200	90S	1,10	S383	H80	48	104	65	80	100	490	600	440	160	75	260	485	100	932	920	M20x400															
	90L	1,50				106												973																	
	100L	2,20				116												994																	
	100L	3,00				117																													
065250	100L	2,20	S434	H80	78	162												65	80		100	540	660	490	170	90	280	530	140	1083	1000	M20x400			
	112M	4,00				163																								1104					
	100L	3,00				198	1180																												
	112M	4,00				233	1205																												
065250	100L	2,20	S435	H95	78	198	65	80	100	540	660	490	170	90	280	530	140			1104										1140	M20x400				
	112M	4,00				233														1205															
	132S	5,50				236												1231																	
	132S	5,50				252												1323																	
065315	132S	5,50	S486	H110	94	282												65	80	100	610	840	550	205	90	325	605	140	1385	1250		M24x400			
	132M	7,50				236																							1231						
	160M	11,00				252	1323																												
	160L	15,00				282	1385																												
080160	80	0,75	S383	H80	51	104	80	100	125	490	600	440	160	75	260	485	140												899	920	M20x400				
	90S	1,10				107																							957						
	90L	1,50				109												998																	
	100L	2,20				119												1067																	
	100L	3,00				144												1108																	
080200	90L	1,50	S434	H80	71	155												80	100	125	540	660	490	170	90	300	580	140	1129	1000		M20x400			
	100L	2,20				156	1205																												
	100L	3,00				191	1205																												
	112M	4,00				191	1205																												
080200	132S	5,50	S435	H95	71	191	80	100	125	540	660	490	170	90	300	580	140												1205	1140	M20x400				
	100L	3,00				194																							1108						
	112M	4,00				195												1129																	
	132S	5,50				223												1205																	
080250	132M	7,50	S486	H95	84	226												80	100	125	610	840	550	205	90	350	665	140	1231	1250		M24x400			
	132S	5,50				243																							1205						
	132M	7,50				246	1231																												
	160M	11,00				262	1323																												
080315	160L	15,00	S486	H110	104	292	80	100	125	610	840	550	205	90	350	665	140												1385	1250	M24x400				
	100L	2,20				164																							1108						
	100L	3,00				165												1129																	
	112M	4,00				200												1205																	
100160	132S	5,50	S435	H95	80	200												80	100	125	540	660	490	170	90	280	560	140	1205	1140		M20x400			
	100L	2,20				163																							1108						
	100L	3,00				164	1129																												
	112M	4,00				199	1205																												
100200	132M	7,50	S435	H95	79	202	80	100	125	540	660	490	170	90	280	560	140												1231	1140	M20x400				
	100L	2,20				200																							1144						
	100L	3,00				228												1220																	
	112M	4,00				231												1246																	
100250	132M	7,50	S486	H95	89	247												80	100	125	610	840	550	205	90	325	605	140	1338	1250		M24x400			
	160M	11,00				264																							1400						
	160M	11,00				294	1462																												
	160L	15,00				294	1400																												
100315	180M	18,50	S486	H110	106	306	80	100	125	610	840	550	205	90	350	665	140												1462	1250	M24x400				
	180L	22,00				323																							1426						
	132M	7,50				244												1338																	
	160M	11,00				260												1400																	
125200	160L	15,00	S486	H110	102	290												80	100	125	610	840	550	205	90	350	665	140	1426	1250		M24x400			
	132M	7,50				251																							1246						
	160M	11,00				267	1338																												
	160L	15,00				297	1400																												
125250	160L	15,00	S486	H110	109	297	80	100	125	610	840	550	205	90	350	665	140												1400	1250	M24x400				
	132M	7,50				251																							1246						
	160M	11,00				267												1338																	
	160L	15,00				297												1400																	
150200	132M	7,50	S605	H95	120	279												150	200	160	730	840	670	205	110	380	780	140	1266	1400		M24x400			
	160M	11,00				306																							1358						
	160L	15,00				337	1423																												
	180M	18,50				349	1482																												
150250	160L	15,00	S606	H110	134	351	150	200	160	730	840	670	205	110	380	780	140												1420	1250	M24x400				
	180M	18,50				363																							1482						
	180L	22,00				392												1482																	
	200L	30,00				436												1540																	
150315																																			
150400																																			
150500																																			
200250																																			
200315																																			
200400																																			
200500																																			

Foundation plans with base plates and fittings on request

\* Motor protection type IP 55, dimensions depend on the motor manufacturer. Some sizes are not corresponding to the drawing in small details. Foundation plan for 60 Hz on request



Dimensions in mm.

Dimensional tolerances admissible (base plates) for welded parts according to DIN 8570 B

size	motor		base plate No.	coupling **	weight		DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	x	w*	w <sub>1</sub>	rag bolt Din 529
	size	kW			pump kg	unit kg														
032125	71	0.55	S241	H80	32	64	32	50	80	330	480	290	125	60	177	317	100	780	730	M16x200
	80	0.75				72												814		
	80	1.10				75												872		
	90S	1.50				77												872		
	90L	2.20				80												814		
032160	80	1.10	S272	H80	41	83	32	50	80	360	540	320	140	60	197	357	100	814	820	M16x200
	90S	1.50				85												872		
	90L	2.20				85												872		
	100L	3.00	S303	H95	41	95	32	50	80	390	600	350	160	60	197	357	100	913	920	
	112M	4.00				96												934		
	132S	5.50				98												993		
	132S	7.50				98												1012		
032200	90L	2.20	S272	H80	39	83	32	50	80	360	540	320	140	60	225	405	100	872	820	M20x400
	100L	3.00				93												913		
	112M	4.00				94												934		
	132S	5.50	S303	H95	39	127	32	50	80	390	600	350	160	60	240	420	100	1010	920	
	132S	7.50				158												1128		
	160M	11.00	S344	H95	39	203	32	50	80	450	660	400	180	60	240	420	100	1020	1020	
	160M	15.00				149												1190		
	032250	160L	18.50	S385	H95	52	149	32	50	100	490	740	440	200	75	260	485	100	1140	
132S		7.50	S383	184			1030													
160M		11.0	S434	184			1030													
040125	80	1.10	S272	H80	34	73	40	65	80	360	540	320	140	60	177	317	100	814	820	M16x200
	90S	1.50				76												872		
	90L	2.20				78												872		
	100L	3.00				88												913		
	90S	1.50				81												872		
040160	90L	2.20	S272	H80	39	83	40	65	80	360	540	320	140	60	197	357	100	814	820	M16x200
	100L	3.00				83												872		
	112M	4.00				93												913		
	132S	5.50	S303	H95	39	127	40	65	80	390	600	350	160	60	197	357	100	934	920	
	132S	7.50				127												993		
	160M	11.00				162												1010		
	160M	15.00				162												1010		
040200	100L	3.00	S342	H80	43	104	40	65	100	450	660	400	180	75	240	420	100	1128	1020	M20x400
	112M	4.00				105												933		
	132S	5.50	S303	H95	43	131	40	65	100	390	600	350	160	75	225	405	100	920	820	
	132S	7.50				160												954		
	160M	11.00				160												1148		
040250	160M	15.00	S344	H95	57	189	40	65	100	450	660	400	180	75	240	420	100	1020	1020	M20x400
	132S	7.50				S383												154	1030	
	160M	11.00	S434	H95	57	189	40	65	100	540	660	490	170	75	260	485	100	920	1000	
	160L	18.50				S385												219	1148	



Foundation plan for units with spacer type coupling

n = 2900 rpm

size	motor		base plate No.	coupling **	weight		DN <sub>2</sub>	DN <sub>1</sub>	a	b <sub>2</sub>	e <sub>1</sub>	e <sub>2</sub>	v	f <sub>1</sub>	h <sub>3</sub>	h <sub>4</sub>	x	w*	w <sub>1</sub>	rag bolt DIN 529													
	size	kW			pump kg	unit kg																											
050125	90S	1,50	S272	H80	35	77	50	65	100	360	540	320	140	60	197	357	100	892	820	M16x200													
	90L	2,20				79												933	920	M12x100													
	100L	3,00	89	954																													
	112M	4,00	90	1030		M16x200																											
	132S	5,50	123	1030																													
050160	90L	2,20	S342	H80	44	95	65	80	100	450	540	400	140	60	240	420	100	892	820	M20x400													
	100L	3,00				105												933	820	M20x400													
	112M	4,00	106	954																													
	132S	5,50	S303	H95		132												60	225	405	1030	920	M16x200										
	132S	7,50				161															1030	920	M16x200										
160M	11,00	S344	H80	104	65	80	100	100	450	660	400	180	60	240	440	100	1148	1020	M20x400														
100L	3,00	S342	H80	105													60	225		425	933	820	M20x400										
112M	4,00			105															954														
132S	5,50	S303	H95	131													60	225	425	1030	920	M16x200											
132S	7,50			160																1030	920	M16x200											
160M	11,00	S344	H80	160	65	80	100	100	450	660	400	180	60	240	440	100	1148	1020	M20x400														
160M	15,00	S385	H95	195													60	240		440	1210	1140	M20x400										
160L	18,50			189															1148		1000												
160M	11,00	S434	H95	219													60	260	485	1210	1140	M20x400											
160M	15,00			238																1272													
160L	18,50	S385	H80	238	65	80	100	100	450	660	400	180	60	260	485	100	1330	1140	M20x400														
180M	22,00	S435	H110	299													60	280		505	1272	1140	M20x400										
200L	30,00			H25															H80		100			101	933	820	M20x400						
100L	3,00	S342	H80	100													65	80	100	100	450	540	400	140	60			240	440	100	933	820	M20x400
112M	4,00			101																						954							
132S	5,50	S383	H95	136	60	240	440	1030	920	M20x400																							
132S	7,50			142				1030	920	M20x400																							
132S	5,50	S344	H95	162	65	80	100	100	450	660	400	180	60	240	440	100										1148	1020				M20x400		
132S	7,50			182													1148	1020															
160M	11,00	S385	H95	210													60	260	485	1188	1140	M20x400											
160M	15,00			229																1250													
160L	18,50	S435	H110	229													65	80	100	100	450	740	440	200	60	260	485	100	1312	1140	M20x400		
180M	22,00			H125	H80	229	60	280	505	1370	1270	M20x400																					
200L	30,00	S436	H125	252	60	280				530			1370	1270	M20x400																		
160L	18,50			H95			H80	252	60		280	530	1422			1270													M20x400				
180M	22,00	H110	H80	266	65	80	100	100		450			840	490	215															60	280	530	100
200L	30,00	S487	H125	362					60		300	550				1480	1420	M24x400															
200L	37,00			H110												H80			362	60	300	550	1480	1420	M24x400								
225M	45,00	S607	H125	445					60		325	575				1510	1400	M24x400															
225M	45,00	S607	H125	445												60			325	575	1510	1400	M24x400										
132S	7,50	S434	H80	164	65	80	100	100	450	540	660	490	170	60	260		485	100			1095			1000	M20x400								
160M	11,00	S385	H95	165												60			260	485	1213	1140	M20x400										
160M	15,00			213																	1275												
160L	18,50	S435	H110	232												65			80	100	100	450	740	440	200	60	260	485	100	1337	1270	M20x400	
180M	22,00			H95																										H80			210
160M	15,00	S436	H110	244	60	260	485	1385	1270	M20x400																							
160L	18,50			H95				H80			244	60	260	485	1447		1270	M20x400															
180M	22,00	S436	H110	258	65	80	100	100	450	840	490				215															60	260	485	100
200L	30,00	S487	H125	354								60	300	550		1447	1250	M24x400															
200L	37,00			H110												H80			354	60	300	550	1505	1420	M24x400								
180M	22,00	S486	H110	284								60	300	550		1447	1250	M24x400															
200L	30,00			S487												H125			284	60	300	550	1505	1420	M24x400								
200L	37,00	S487	H125	368	65	80	100	100	450	940	550	240	60	300	580	100	1535	1400	M24x400														
225M	45,00	S607	H125	451													60	325		605	1535	1400	M24x400										
250M	55,00	S608	H140	651															60		350			630	1665	1600	M24x400						
160L	18,50	S436	H95	254													65	80		100		100	450		540			840	490	215	60	280	560
180M	22,00			H110															H80		268			60		280	560						
200L	30,00	S487	H125	364	60	300	580	1505	1420	M24x400																							
200L	37,00			H95				H80			364	60	300	580	1385	1270			M20x400														
160L	18,50	S436	H95	253	65	80	100	100	450	540	840				490						215			60		280	560						
180M	22,00			H110								H80	267	60		280	560	1385	1270	M20x400													
200L	30,00	S487	H125	363								60	300					580				1447	1270		M20x400								
200L	37,00			H95										H80		363	60		300	580		1505						1420	M24x400				
225M	45,00	S607	H125	446								65	80	100		100		450				610	940		550					240	60	300	580
200L	30,00	S487	H125	373	60	325	605	1535	1400	M24x400																							
200L	37,00			H95				H80			373				60		325		605	1520	1420			M24x400									
225M	45,00	S607	H125	456	60	350	630	1550	1400	M24x400																							
250M	55,00	S608	H140	656				65			80				100		100		450	730	1060			670		230	60	325	605				
280S	75,00	S609A	H160	909	60	350	630		1680	1600		M24x400																					
280M	90,00			H110					H80				959	60		380		660				1780	1800		M24x400								
250M	55,00	S608	H140	669	65	80	100		100	450		730	1060									670								270	60	350	665
280S	75,00	S609A	H160	922										60		380		695					1780		1800								
280M	90,00			H110				H80			972				60		380		695	1780	1800		M24x400										

\* Motor protection type IP 55, dimensions depend on the motor manufacturer.  
Some sizes are not corresponding to the drawing in small details.  
Foundation plan for 60 Hz on request



**Sterling SIHI (Spain), S.L.**

Vereda de los Zapateros s/n, Pozuelo de Alarcón 28223 Madrid, Spain.

Telephone +34 91 709 1310 Telefax +34 91 715 9700

[www.sihi.com](http://www.sihi.com)